Guidelines for Reviewers

The mission of the National Institutes of Health (NIH) is to improve the health of all Americans by promoting research that will help prevent, detect, diagnose, or treat disease. Peer review is the cornerstone of the NIH extramural program. As a scientific consultant participating in a study section, you are asked to evaluate the scientific merit of grant applications. The NIH sincerely appreciates your valuable role in this first step of review. The second stage of review is performed by a National Advisory Board or Council serving one of the funding institutes of the NIH and is based on the advice of the study section as well as additional criteria such as program priorities.

The Scientific Review Administrator (SRA) and the Chair of the study section work together to lead the peer-review process and are valuable sources of information when you have questions. In addition, the SRA and the Chair welcome your feedback concerning the review process. (Please see two related documents, "Role of the SRA" and "Guidelines for Study Section Chairs")

Examine Your Application Package Promptly: Four to six weeks before the meeting, you will receive a package containing all of the applications except for those that pose a conflict of interest for you (see Conflict of Interest below). Included will be a list of applications on which you are expected to focus as a Reviewer or Discussant. It is critical that you promptly alert the SRA (within a few days is optimal) to unforeseen conflicts or questionable assignments concerning the matching of your expertise. Pay special attention to a letter from the SRA, which will provide information about the study section meeting including instructions and deadlines for making your travel plans.

Conflict of Interest: The SRA will identify conflicts of interest involving you and any application. Your assistance is necessary. Consider the following as potential conflicts: investigators are listed with whom you have a financial and/or professional relationship; the funding decision on any application would benefit you directly; you feel there may be a perception of conflict. Notify the SRA in such cases. The SRA will make the final determination. Supplying a reagent or service that is available to anyone in the scientific community does not, by itself, constitute a conflict of interest.

Confidentiality: The applications are to be considered confidential. If you believe that additional scientific expertise is needed to review an application, contact the SRA who can obtain an appropriate outside opinion. Respect for the privacy of the investigators' ideas is also important. Misappropriation of intellectual property, including the unauthorized use of ideas or unique methods obtained from a privileged communication, such as a grant or manuscript review, is considered plagiarism and falls under the definition of scientific misconduct.

Expectations of Reviewers and Discussants: Each application is assigned to at least two Reviewers and one Discussant. As a Reviewer, you will be expected to write a complete critique. As a Discussant, you are not required to provide written comments, although you may choose to do so. The SRA may ask you for written comments if you have a special expertise or if you present views at the meeting not captured in other reviews. Although you should prioritize your efforts to evaluate the applications assigned to you, reading other applications as your time allows is highly encouraged.

Amended and Renewal Applications: For revised applications, your critique should

include an evaluation of the changes made in response to the last review. You should consider the response by the investigator to the previous criticisms as one component in your overall evaluation of the current application. Note, however, that you are not tied to previous reviewers' critiques and can raise new criticisms and/or disagree with previous comments on strengths and weaknesses. If the application is a competing renewal, you should include an evaluation of progress over the past project period.

The Written Critique: Consider all aspects of the application. Do not describe the investigator's plans; rather make evaluative statements about the strengths and weaknesses based on criteria described elsewhere. A strong application will contain good ideas, address important issues, and generate confidence that the investigator(s) will make a significant impact. Do not insist on a hypothesis-driven approach if the research is sound and will move the field forward. Focus is important, especially for new investigators. Avoid emphasizing minor technical details, making tutorial comments, or redesigning the investigator's experiments. Put the requirement for preliminary data in perspective such that bold new ideas, young investigators, and risk taking are encouraged rather than stymied. Be concise; longer reviews are not necessarily better. Sample critiques are less than 2 pages long. Where possible, try to put the strengths and weaknesses in perspective by indicating their relative magnitude. Do not consider issues outside of scientific merit in your critique, such as current or past funding levels or personal situations of the investigator.

Scoring: Priority scores range from 1.0 (highest priority) to 5.0 (lowest priority). Use your judgment in weighing the relative importance of each criterion. An application does not need to be strong in all categories to be judged likely to have a major scientific impact. For example, an investigator may propose to carry out important work that by its nature is not innovative, but is essential to move a field forward. An application of average strength relative to other applications ordinarily reviewed by the study section should receive a score of 3.0, although the scoring behavior of individual study sections may vary. It is important to note that unacceptable designations in the areas of protection of human subjects from research risk, inclusion of gender, minorities, or children, vertebrate animal welfare and biohazards should be reflected in the priority score. Be consistent and remember that you are welcome to discuss scoring issues with the SRA and/or the Chair. It may be helpful in spreading the scores to rank the applications assigned to you for any given meeting in order of scientific merit.

Scientific Misconduct: It is vital that you not make allegations of potential misconduct at the study section meeting or in the critique. Such concerns must be brought to the attention of the SRA in a confidential manner, preferably before the study section meets.

Discussion of Applications: The Study Section Chair will guide the scientific discussion, which often begins with a brief assessment of merit in the form of preliminary priority scores from the assigned reviewers and discussant(s). In your review, clearly summarize your views, emphasizing the major strengths and weaknesses of the application based on the criteria relevant to the grant mechanism under review. If you are first to present, briefly describe the overall goals of the application for the benefit of other members of the study section who are less familiar with it. If you are not first to present your evaluation, integrate your views with those already presented. Avoid repeating detailed descriptions of strengths and weaknesses already provided. Identify major issues with which you disagree and raise any issues not brought up previously that you feel should influence the score of the application. It is important that you listen carefully to each presentation and be prepared to defend or change your point of view based on scientific arguments. Keep an open mind, but

don't give in just to reach consensus. Do not be afraid to express your view, but avoid statements that might be considered offensive. You are strongly encouraged to participate in the discussion of applications not assigned to you. A vigorous discussion involving multiple panel members is ideal. Consensus is not a necessity and the Chair will decide when further discussion is not likely to resolve scientific differences of opinion. In such cases, it is important to establish the foundation of the disagreement. Each reviewer present for the discussion will vote on each application. Your score should be based on your level of enthusiasm. It is important, however, that you articulate any plan to give a score outside the range indicated by the assigned reviewers. Consider human subject, animal welfare and biohazard issues before scoring. Budget recommendations are addressed after scoring followed by assessment of compliance with policies regarding the plan for data sharing and the plan for sharing of model organism resources.

Please note that, in the event that your views are altered as a result of the discussion, you are encouraged to modify your written critique so that the summary statement reflects your final evaluation of the application.

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